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THE ALKALOIDAL ASSAYS OF THE U.S.P. OF 1900.

BY H. M. GORDIN.

Having been asked by the editor of this JOURNAL to make a review of the methods adopted in the last edition of the U.S.P. for the assay of alkaloidal drugs and their galenical preparations, I hereby offer a few observations which occurred to me during this examination of the pharmacopœial methods.

On examining the assay methods of crude drugs it will be noticed that different methods are used for different drugs without any good reason so far as I can see. While it is true that not every method is suitable for every drug, it would nevertheless seem to be advisable to adhere to one and the same method wherever it gives as good results in one case as in another. Comparing, for example, the methods adopted for the assay of aconite, belladonna and ipecac, it is difficult to see why the simple method adopted for the first of these drugs would not give as good and concordant results with the other two. In the same way, on comparing the assay methods for the fluid extracts of cinchona bark, aconite, belladonna and ipecac roots, it would seem that the simple and exact method adopted for the assay of the fluid extract of belladonna root would also give good and concordant results with the other fluid extracts, particularly if ether or a mixture of ether and chloroform were substituted for chloroform. That the methods which give good results with belladonna root and its fluid extract are equally well applicable to aconite root and its fluid extract, for example, is in accord with my own experience as well as with the statements of A. B. Lyons in his well known Hand-book of Practical Assaying of Drugs and Galenicals, where the author uses the same methods for the assay of both of these drugs and their fluid extracts.

In some assay methods of the U.S.P. care has been taken to avoid the use of aliquot parts of the real liquids, while in others no such care is taken.

In some assays solid substances are dissolved in ether or a mixture of ether and chloroform and the solutions transferred to a separating funnel. Thus in the assay of extract of *nux vomica* we are told to dissolve the extract in an open beaker by means of a mixture of ether, chloroform and ammonia water, and when the extract is dissolved to transfer the solution to a separating funnel. As the extract goes only very slowly in solution, requiring continuous stirring with a glass rod, and the liquid has a great tendency to "creep" on the outside of the beaker when poured into the separating funnel, it is easy to see that much greater accuracy would be obtained by weighing the extract directly into the separating funnel, adding the solvent mixture to the powder and shaking the stoppered funnel till the extract is dissolved.

Some of the assay methods of the pharmacopœia are completely unworkable. Such, for example, are the assays of aconite root, its fluid extract and fluid extract of ipecac root, in all of which we are directed to filter the first acid liquids obtained in these assays, but as these liquids are very thick and contain sticky resinous substances, the filters are very soon completely clogged and the assays cannot be finished. This is in accord with my own experience and the experience of several teachers and students in our school.

As *hydrastis* and its galenical preparations are standardized in the new pharmacopœia an assay method ought also to be adopted for the glycerite of *hydrastis*.

I shall now take up the individual assays in the order they occur in the U.S.P.

ACONITUM.—As said before, the assay method is unworkable. Even if it worked it is unnecessarily complicated.¹

BELLADONNAE FOLIA ET RADIX.—This assay method requires only a few modifications in order to make it simple and exact.

(1) The percolation ought to be continued to exhaustion, as indicated by Wagner's reagent.

(2) The cause of error liable to result from transferring of the "creeping" ethereal mixture from one vessel to another and the

¹ See paper read by the author at the meeting of the A.Ph.A., 1906, entitled "Some Alkaloidal Assays." (*This JOURNAL*, p. 458.)

adhering of drug particles to the sides of the first vessel could be completely eliminated by carrying out the shaking and the percolation in one and the same vessel specially constructed for that purpose.¹

(3) As these drugs are rather poor in alkaloid, at least 20 grammes of the leaves or the root ought to be taken for the assay.

CINCHONA.—Instead of "a mixture of 125 c.c. of ether and 25 c.c. chloroform" the directions ought to be "150 c.c. of a mixture of 5 volumes of ether and 1 volume of chloroform previously prepared and cooled to the ordinary temperature." As on mixing ether and chloroform there is a rise in temperature and contraction of volume,² the 100 c.c. drawn off afterwards at ordinary temperature for the assay will from both causes represent more than 10 grammes of drug.

It seems to me that it would be better to use for the assay of cinchona the same method which is used for belladonna root and thus avoid taking an aliquot part of ethereal liquid.

The pharmacopœia directs to make up the final liquid to 50 c.c. and use half for the estimation of total alkaloids, the other half for that of quinine. It would be more convenient to pipette off 20 c.c. (representing 4 grammes of drug) for each of these estimations. As the drug is quite rich in alkaloids there is no disadvantage in working upon 4 instead of 5 grammes of it.

COCA.—The percolation ought to be carried to exhaustion as indicated by Mayer's reagent, and by using the special tube mentioned under belladonna the transferring of ethereal liquid from vessel to vessel could be avoided.

COLCHICI CORMUS ET SEMEN.—The use of the shaking-tube would be advisable.

On comparing the methods for the corm and the seeds it will be seen that in the case of the corm the colchicine before it is weighed undergoes an extra purification. If this is desirable in the case of the corm it ought also to be used in the case of the seeds.

CONIUM.—The assay method is very complicated and will hardly give concordant results in the hands of different chemists.

EMPLASTRUM BELLADONNAE.—It would be preferable to introduce the plaster cut into strips into a separating funnel for the extraction

¹ See AMERICAN JOURNAL OF PHARMACY, 1905, p. 463.

² *J. Chem. Soc. Trans.*, 1897, 371.

with chloroform. When completely extracted the strips could be removed by means of a hooked copper wire.

EXTRACTUM BELLADONNAE FOLIORUM.—It would be preferable to put an indefinite amount of extract into a tared separating funnel and determine the amount of extract taken by weighing the funnel together with the extract.

EXTRACTUM COLCHICI CORMI.—The assay could be simplified by weighing the extract directly into the separating funnel and, after adding ammonia, shaking out the colchicine with chloroform or a mixture of chloroform and ether. The assay could then be finished in the way given in the pharmacopœia.

EXTRACTUM NUCIS VOMICAE.—Here again the extract ought to be weighed directly into the separating funnel.

Before the removal of the last trace of chloroform from the final residue containing the strychnine a few drops of amyl alcohol ought to be added and the liquid evaporated to dryness by blowing air over the surface of the vessel while the latter is kept on the water-bath. Otherwise there is liable to be loss of alkaloid by decrepitation. As this simple device effectively prevents decrepitation it ought to be adopted.

EXTRACTUM PHYSOSTIGMATIS.—The method is unnecessarily complicated and could easily be replaced by a simpler one.¹

EXTRACTUM SCOPOLAE ET E. STRAMONII.—The remarks given under *extractum belladonnae foliorum* apply also to these extracts.

FLUIDEXTRACTUM ACONITI.—As said before, this assay is unworkable. The remarks given under *aconite* apply also to its fluid extract.

FLUIDEXTRACTUM BELLADONNAE RADICIS.—The method is good and could be made still better by shaking out the first chloroformic solution once or twice more with acidulated water.

FLUIDEXTRACTUM CINCHONAE.—A method similar to the one used for *belladonna fluid extract* would be preferable.

FLUIDEXTRACTUM COCAE.—The assay method is very good, but could still be improved by shaking out three times with ether instead of twice.

FLUIDEXTRACTUM COLCHICI SEMINIS.—The assay method is very good.

¹ See footnote to *aconite*.

FLUIDEXTRACTUM CONII.—The remarks on conium apply also to its fluid extract.

FLUIDEXTRACTUM GUARANAE.—Method very good.

FLUIDEXTRACTUM HYDRASTIS.—The method can hardly be improved.

FLUIDEXTRACTUM HYOSCYAMI.—Same remarks as under fluid extract of belladonna root.

FLUIDEXTRACTUM IPECACUANHAE.—As said before, I find the method unworkable.¹

FLUIDEXTRACTUM NUCIS VOMICAE.—The evaporation of the alcohol from the fluid extract is unnecessary. The method can be made much simpler by shaking out directly 10 or 5 c.c. of the fluid extract with immiscible solvents in presence of alkali.

With regard to the addition of amyl alcohol see extract of nux vomica.

FLUIDEXTRACTUM PILOCARPI.—The method is unnecessarily complicated and could be very easily replaced by a simpler one.

FLUIDEXTRACTUM STRAMONII.—Same remarks as under fluid extract of belladonna root.

GUARANA.—The method is very good.

HYDRASTIS.—Use of percolator shaking-tube mentioned under belladonna would be advantageous.

HYOSCYAMUS.—Same remarks as for belladonna leaves.

IPECACUANHA.—Use of percolator shaking-tube would be advisable.

NUX VOMICA.—Same remarks as for ipecac. For the use of amyl alcohol see extract of nux vomica.

PHYSOSTIGMA.—Same remarks as for ipecac.

PILOCARPUS.—Same remarks as for ipecac.

SCOPOLA.—Same remarks as for belladonna leaves.

TINCTURES.—As by concentration tinctures are converted into fluid extracts, the remarks concerning the latter also apply to the tinctures.

NORTHWESTERN UNIVERSITY SCHOOL OF PHARMACY.

¹ See footnote to aconite.

SOME ALKALOIDAL ASSAYS.¹

BY H. M. GORDIN.

While most of the methods adopted in the U.S.P. of 1900 for the alkaloidal assay of drugs and galenicals are very good, there are a few among them that either do not work at all or are so complicated that they will hardly ever give concordant results in the hands of different chemists. To the first class belong the assays of aconite root, its fluid extract and the fluid extract of ipecac. In these assays we are directed to filter the first acid liquids obtained in the method, but as these liquids are very thick and slimy they soon clog up the filter and the assays cannot be finished.

To the second class belong several assays which by introducing certain modifications into the pharmacopœial methods, or replacing the latter by others, could be made simple and capable of giving concordant results.

Such, for example, are the assays of extracts of physostigma and conium and a few others. I therefore propose the following methods which can also be applied to many other cases and which, particularly when used in combination with the shaking-tube percolator described in a previous paper (*AMERICAN JOURNAL OF PHARMACY*, 1905, p. 463) and the two special separating funnels described below, will be found to be simple, short and exact. While the principles in some of these methods are not strictly new, I do not know of their ever having been used in the way here described.

These principles consist in avoiding the distillation of ethereal solutions to dryness and the substitution of fixed alkali or alkali carbonate for ammonia for the liberation of alkaloids from the aqueous solutions of their salts. While in pure condition most alkaloids can be dried without decomposition, in presence of impurities which always accompany the alkaloids obtained in drug assays, the alkaloids frequently become partially resinified when their ethereal or chloroformic solutions are distilled to dryness and are then difficultly soluble in dilute acids without the use of heat. The heat in presence of free acid is liable to injure many alkaloids. In order to avoid the distillation of ethereal solutions of alkaloids to dryness, the latter can be directly shaken out with excess of standard acid provided

¹ Read at the meeting of the American Pharmaceutical Association, September, 1906, and contributed by the author.

no other basic substance is present in the ethereal solution. If ammonia be used to set the alkaloid free there will be large quantities of the volatile alkali in the ethereal solution and the latter will have to be distilled to dryness or at least to small bulk in order to remove the last trace of ammonia which, having a much smaller molecular weight than most alkaloids, would, if not completely removed, vitiate the results obtained by residual titration. But if instead of ammonia sodium carbonate or sodium hydroxide be used for liberating the alkaloids, we can always make use of such an immiscible solvent which does not take up any trace of fixed alkali and which will, therefore, contain no other basic substance except minute traces of ammonia formed by the action of the fixed alkali upon the albuminous matter of the drug. Such traces of ammonia can be easily and quickly removed either by drawing air over the surface of the ethereal liquid or more quickly by concentrating the ethereal solution upon a warm water-bath to about one-half of its original volume. As immiscible solvent in these methods ether alone cannot be used because, dissolving water, ether takes up some fixed alkali when shaken with an alkaline solution. But if instead of ether alone, chloroform alone, or a mixture of three volumes of ether and one volume of chloroform, or a mixture of two or three volumes of ether and one volume of petroleum, ether be shaken up with a solution of a fixed alkali no trace of alkali goes into the immiscible solvent even if the alkaline solution contains 50 or 60 per cent. alcohol. This can be shown by filtering the immiscible solvent, after shaking it with the alkaline solution, through a plain filter of ordinary¹ filter paper, having four folds on each side and previously moistened with ether, and then shaking up the ethereal liquid with a little water. Neither phenolphthalein nor any other delicate indicator will show the presence of alkali in the aqueous liquid.

In using these assay methods ordinary vessels may, of course, be used. But the sources of error involved in transferring ethereal liquids from one vessel to another can be eliminated by making use of the two following special separating funnels.

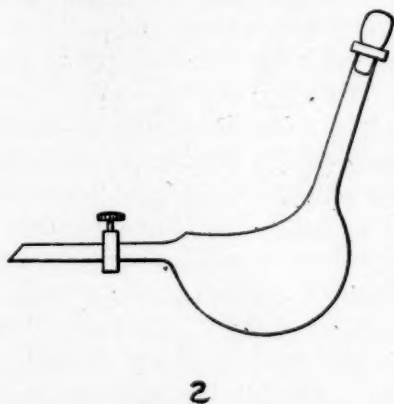
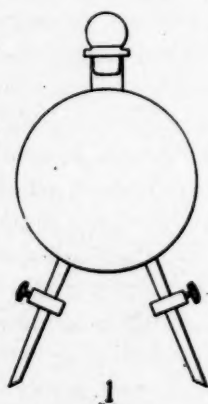
By means of separating funnel No. 1 aqueous and ethereal liquids can be drawn off through separate outlets and the contamination of

¹ Ordinary filter paper is a better absorber of moisture and therefore of traces of adhering alkali than the filters used for quantitative analysis.

the immiscible liquids by each other completely avoided. By means of funnel No. 2 the concentration of an ethereal liquid can be accomplished by placing the funnel in warm water and connecting the long goose neck with a condenser and thus the transferring of the liquid from a distilling flask to separatory funnel avoided.¹

ACONITE ROOT.

Put 10 grammes aconite root (No. 60 powder) into the percolator shaking-tube, and 50 c.c. of a mixture of three volumes ether and one volume chloroform and 5 c.c. of a 10 per cent. solution of sodium carbonate. After stoppering the tube shake the whole thoroughly during one hour, then percolate with the same immis-



cible solvent to exhaustion. In order to obtain a perfectly clear liquid free from any trace of fixed alkali pass the stop cock of the percolator through a very wide cork placed over a small funnel which contains a small plain double filter of ordinary filter paper having four folds on each side. The cork serves as a cover to prevent evaporation. The percolate can be received into any vessel or better into special separatory funnel No. 2. The percolate is then concentrated from warm water to about one-half of the original volume to remove traces of ammonia, and when cold diluted again with ether to approximately the original volume. The ethereal liquid is now shaken out once with excess of standard acid and then twice washed with water. The excess of acid is then titrated in the usual way. As it is always advisable to control the acidimetric

¹ A somewhat similar funnel was devised by H. Bremer.

estimation by a gravimetric one, the acid liquid can be received into a separating funnel of suitable capacity and the titration carried out directly in this funnel. After the titration the liquid is made strongly alkaline with sodium hydroxide and shaken out three times with chloroform. The indicator added all remains in the alkaline aqueous liquid and the colorless chloroformic solution, after evaporation, leaves the alkaloid to be weighed and identified by special reactions. Assayed by this method a sample of good aconite root gave (volumetrically) 1.02 per cent. alkaloids.

IPECAC ROOT.

Put 5 grammes ipecac (No. 60 powder) into shaking tube, add 2.5 c.c. of a 10 per cent. solution of sodium carbonate and 25 c.c. of the same immiscible solvent as was used for aconite. After shaking one hour percolate to exhaustion. Shake out percolate three times with small quantities of very dilute sulphuric acid, add excess of sodium hydroxide and shake out three times with chloroform ether. Distil the ethereal solution to about one-half, dilute with ether to about original volume and finish as with aconite root.

A good sample of ipecac assayed by this method gave 2.55 per cent. alkaloid.

An attempt to assay belladonna leaves by this method showed that the leaves cannot be exhausted if sodium carbonate is used. (Sodium hydroxide was not tried.)

FLUID EXTRACTS.

These were assayed as follows:

From 5 to 20 c.c. of the fluid extract were shaken out three times with the immiscible solvents, using 30, 20 and 20 c.c. and making the liquid alkaline with 10 per cent. solution of sodium carbonate in separating funnel No. 1. The immiscible solvent was filtered into separatory funnel No. 2 and after concentration to about one-half and dilution with ether shaken out with excess of standard acid and then washed twice with water. The excess of acid was titrated in the usual way. The whole volumetric assay of a fluid extract by this method occupies about two hours. The method works very well with the following fluid extracts: Aconite root, belladonna root, coca leaves and ipecac root. For ipecac 5 c.c. and for belladonna root 20 c.c. were taken; for aconite or coca 10 c.c. were taken. As

immiscible solvent a mixture of two volumes of ether and one volume of petroleum ether was used.

The results obtained from samples prepared in our laboratory from drugs of good quality were as follows:

Fluid Extract Aconite	1'20
" " Coca	0'76
" " Belladonna root	0'60
" " Ipecac	1'80

FLUID EXTRACT PILOCARPUS.

Owing undoubtedly to the solubility of pilocarpine in water and to the tendency of this fluid extract to emulsify, the Pharmacopœia directs to evaporate the fluid extract on sand and then extract the sand with chloroform in presence of ammonia. A much quicker method is as follows: To 10 c.c. of the fluid extract placed in separating funnel No. 1 add 10 c.c. of a saturated solution of potassium carbonate and shake out the liquid three times with a mixture of three volumes of ether and one volume of chloroform, using 40 c.c. each time. Filter the ethereal liquid into separatory funnel No. 2, concentrate to about one-half, dilute with ether and shake out with standard acid. The excess of acid is titrated as usual. A sample obtained from S. and D. gave 0.53 per cent.

FLUID EXTRACT CINCHONA.

Owing again to the tendency of this fluid extract to emulsify the Pharmacopœia directs to mix the fluid extract with ether, chloroform and ammonia and then draw off an aliquot part for the assay. As the use of aliquot parts of ethereal liquids is objectionable, wherever it can be avoided I use the following method:

To 5 c.c. of the fluid extract placed in funnel No. 1 add 2 c.c. of a 10 per cent. solution of sodium hydroxide and shake out three times with a mixture of three volumes of ether and one volume of chloroform, using 25 c.c. each time. Filter ethereal solution into another separating funnel and shake it out three times with dilute sulphuric acid. From the acid solution the alkaloids are extracted with chloroform in presence of any alkali, the chloroform distilled off from a tared vessel and the residue dried and weighed. No emulsion occurs during the process. A sample of fluid extract prepared in our laboratory gave 4.81 per cent. total alkaloids.

EXTRACTUM PHYSOSTIGMATIS.

Having found the pharmacopœial method rather complicated I have used the following method which is short and exact:

Dissolve 2 grammes of the solid extract placed in a small evaporating dish in about 10 c.c. of cold water acidulated with 5 drops of dilute acetic acid (U.S.P.) and transfer the turbid liquid to a 25 c.c. measuring flask. Wash the dish with small quantities of water and make up the liquid to 25 c.c. Filter through a dry filter and by means of a pipette transfer 12.5 c.c. of the filtrate to separating funnel No. 1. To the contents of the funnel add 10 c.c. of a saturated solution of sodium bicarbonate and 100 c.c. of a mixture of one volume of petroleum ether and three volumes of ether. Shake thoroughly for a minute or so, draw off the alkaline aqueous liquid and throw it away, then filter the ethereal solution into separating funnel No. 2 through a plain double filter of ordinary paper having four folds on each side. Wash the first separating funnel and the filter repeatedly with more of the immiscible solvent and concentrate the ethereal liquid to about one-half. Cool, dilute with ether and shake out first with excess of standard acid and then twice with water. Titrate excess of acid with standard alkali, using hematoxylin as indicator. The acid liquid is perfectly colorless and the end reaction is exceptionally sharp.

A higher yield of alkaloid can be obtained by substituting chloroform for the petroleum ether in the above immiscible solvent. In this case, too, the method works well and the end reaction is very sharp. But neither method gives the amount of all the alkaloids in the drug, which could only be obtained by repeated extraction with chloroform. As this is inconvenient the results obtained by either of the above methods could be adopted as official standard.

A sample obtained from P. D. & Co. gave the following results:

	Per cent.
Stated strength	5.00
By first method	4.20
By second method	4.91

The apparatus described in this paper as well as the one described in this JOURNAL, 1905, p. 463, can be obtained from E. H. Sargent & Co., Chicago, Ill.

NORTHWESTERN UNIVERSITY SCHOOL OF PHARMACY.

SEPARATION OF MORPHINE FROM ITS SOLUTION IN GLYCERIN.¹

BY H. M. GORDIN.

In collaboration with W. H. Harrison.

Owing to the considerable solubility of morphine in glycerin it is difficult to separate this alkaloid from its solvent. From a 50 per cent. solution of glycerin containing about 250 milligrammes of the alkaloid in 100 c.c. of liquid, morphine is not precipitated by alkaline carbonates. Ether or chloroform do not dissolve glycerin, but neither do they dissolve much morphine. Amyl alcohol is a somewhat better solvent for morphine, but it also dissolves about 8 per cent. glycerin. Hence on shaking out a glycerin solution of morphine with amyl alcohol three or four times considerable glycerin will go along with the alkaloid, and when the amyl alcohol is then shaken out with acidulated water the water will take up both the alkaloid and glycerin.

The first method that suggested itself was to remove the glycerin by a current of steam. It was found that ordinary steam at 100° does not take up any appreciable amount of glycerin. Even superheated steam at 135° takes up very little glycerin.

Steam of a much higher temperature would undoubtedly remove all the glycerin, but it being certain that high temperatures would destroy the morphine during the long time that is required to remove all the glycerin the method was dropped.

The second method was to mix the glycerin solution of morphine with about ten times its amount of lead oxide, heat on the water-bath to perfect dryness and extract the morphine repeatedly with hot amyl alcohol. From the latter the alkaloid could then be extracted by means of dilute acid. While this method looked promising at first the results were entirely negative. Not a trace of morphine was recovered. Either the alkaloid is destroyed by the heating on the water-bath with the lead oxide or, what is more probable, morphine having a phenolic character forms a lead salt with the metallic oxide, which salt is completely insoluble in hot amyl alcohol.

¹ Read at the meeting of the American Pharmaceutical Association, September, 1906, and contributed by the author.

The next method tried was to dilute the glycerin solution of morphine with a saturated solution of potassium carbonate and then shake the liquid out three times with hot amyl alcohol. From the amyl alcohol the alkaloid was extracted by shaking out three times with small amounts of dilute sulphuric acid. By this method some morphine was recovered, but the amount was very small. As the method is very inconvenient with larger quantities of liquid and the results are poor, this method, too, is certainly very unsatisfactory.

The best results were obtained by the following method: The glycerin solution of morphine sulphate is treated with an excess of normal iodine solution and the liquid diluted with water to about three times the original volume. On standing over night about 80 per cent. of the morphine taken crystallized out as the characteristic morphine hydriodide triiodide. The crystals were collected upon a small filter, washed with water containing a little Wagner's reagent and then dissolved by adding a few cubic centimeters of a 10 per cent. solution of sulphurous acid.

In this way even starting with a very large amount of a glycerin solution of morphine the alkaloid is finally obtained in only a few cubic centimeters of an aqueous liquid perfectly free from glycerin. On now adding a slight excess of potassium carbonate and heating to about 100° for a minute or two the alkaloid commences to crystallize out within half an hour.

NORTHWESTERN UNIVERSITY SCHOOL OF PHARMACY.

THE DUTY OF THE PHARMACIST TO AID IN THE ELIMINATION OF IRREGULAR PRACTICES.¹

BY CHARLES H. LAWALL.

In the consideration of the above subject, it will first be found necessary to briefly review and define some of the acts which would justly be entitled to the term irregular.

Irregularity in its strictest sense means, contrary to the ethics of the professions of medicine and pharmacy, but in the broader signi-

¹ Read before the Philadelphia Section of the American Pharmaceutical Association, May 21, 1906.

fication which is accepted by the most advanced thinkers, it is taken to mean any practice which is detrimental to the community at large, or which conflicts with or hampers scientific progress in either of the professions.

In a classification of this kind there may be mentioned three forms of irregular practice which directly affect the health of the community, and which are to be deplored by all members of the pharmaceutical profession who have a true understanding of the relation which they bear to the public from whom they derive their privileges and powers.

Counter-prescribing, the dispensing of drugs used for improper purposes, and the intentional promoting and fostering of drug habits are not so common at the present time as they were before the recently established era of association work, and higher educational facilities and ideals produced their undeniable influence, but they are too common to suit the trustworthy and law-abiding members of the profession, and are persisted in by a small number of druggists, who in so doing cast discredit upon all their brethren, and prevent the establishment of mutually helpful relations between the members of the professions of medicine and pharmacy.

The blame for counter-prescribing may be placed directly on the shoulders of the public itself; the same causes leading to it which have contributed to the abuse of the free dispensary, chief among which is the desire to get something for nothing.

In the case of counter-prescribing, there is a limit within which the dispensing of certain simple remedies is undoubtedly justifiable. When a customer enters a drug store and asks the proprietor or clerk for a mild purge or a lotion for a slight sprain, it is certainly within the province of the pharmacist to dispense such an article as is described—but when certain symptoms are described and the druggist is asked for a remedy to correct or cure such symptoms, it is unmistakably wrong for him to assume such responsibility even though he receives no compensation for his advice.

The false confidence which leads some druggists into the erroneous idea that they are qualified to prescribe is probably due to familiarity with the methods of the many physicians whose prescriptions are daily compounded and closely observed. The druggist becomes imbued with the idea that, because Dr. A., Dr. B., and

Dr. C., all prescribe similar combinations for symptoms which have in many cases been confided to him by the patient previous to consulting the physician, he knows just as much about prescribing for such symptoms as they do.

It is also true that many physicians are guilty of the weakness of falling into a rut in prescribing, having a stock or pet form of prescription which they use day after day with minor variations, and to this procedure is ascribed the origin of many compound preparations which afterward become officially recognized, as Dover's Powder, Basham's Mixture, Donovan's solution, etc., and in some cases, doubtless, these oft-repeated prescriptions have been taken up and exploited as proprietaries or nostrums to the detriment of both professions.

It is also true that some teachers in medical colleges are faddists or cranks on certain combinations, and that all teachers publish in their text-books and exhibit in their lectures typical prescriptions for illustrative cases, which prescriptions are primarily intended for the guidance of the beginner in prescription writing, but which are too often used as written, with little or no modification, during the entire professional career of the student.

In a recent number of a pharmaceutical journal was published a list of such prescriptions, to which were appended the names of the prescribers, most of whom were eminent in the profession of medicine, together with the name of the disease or the purpose for which the combination was prescribed. A glance at some of them will show how errors may thus be perpetuated, and harm done to both medicine and pharmacy, and it is not beyond the bounds of possibility that some nostrum manufacturer might take any one of them and put it up as a secret preparation, stating with entire truthfulness that it had been used and advocated by a prominent member of the medical profession in the alleviation or cure of a given condition.

There is one phase of counter-prescribing, however, which must be unhesitatingly and emphatically condemned, *i. e.*, the prescribing for eruptive symptoms or conditions under the supposition that they are merely local. Such symptoms in many cases are indicative of contagious disease, and ill advised or irregular treatment by an inexperienced person may easily result in the detention or even to the death of more than one person.

It is unnecessary to condemn, before an audience of this kind, the other two forms of irregular practice which have been mentioned; they are only persisted in by a small proportion of the members of the profession, *i. e.*, that proportion which never allies itself with any associations nor attends meetings where such subjects come up for discussion, and in whom the moral sense is so blunted that they would be guilty of dishonest practices in whatever business or profession they happened to be placed.

There are, however, certain irregularities to which the pharmacist is often an unwilling contributor, and the elimination of which will be brought about by a proper understanding of the conditions which exist. I refer to the matters which come under the jurisdiction of the Council of Pharmacy and Chemistry of the A.M.A.

The Council of Pharmacy and Chemistry and its work needs no explanation to most of the members present. It was formed for the purpose of disseminating information concerning a large number of preparations, some of which are worthy and others unworthy or fraudulent, and whose number is so large that the ordinary practitioner cannot spare the time to look into the merits of each individual preparation himself. The committee consists of fifteen members who stand among the highest in the professions of medicine and pharmacy in the country. They have formulated certain rules to which preparations must conform in every respect in order to meet with the approval of the committee. The results of the investigations as far as accepted or admitted articles are concerned will be published in book form at a nominal price, to serve as a guide or handbook of unofficial and legitimate preparations in common use. It is to be regretted that there has been no provision for publishing in the same book the facts and information in such cases where the preparation has not been found worthy of admission, for it is just as important to know what not to prescribe as it is to know what is proper to give.

In connection with several of these rules the pharmacist, by virtue of his special knowledge along these lines, is well qualified to aid the members of the medical profession in this great work.

Rule 2 provides that "No chemical compound will be admitted unless information be furnished regarding tests for identity, purity and strength, and, if a synthetic compound, the rational formula."

The pharmacist, by his training in theoretical organic chemistry

and his practical experience in analytical work, is well qualified to aid in the separation of the wheat from the chaff in the numberless preparations which will have to be tried by this rule. The claims of manufacturers are often so ingeniously worded, that one who is not familiar with the manner in which organic chemical names are capable of being juggled or transposed, may be easily deceived.

Rule 4 states that "No article will be admitted whose label, package or circular accompanying the package contains the names of diseases, in the treatment of which the article is indicated. The therapeutic indications, properties and doses may be stated. (This rule does not apply to vaccines and antitoxins, nor to advertising in medical journals, nor to literature distributed solely to physicians)."

As the physician frequently has no opportunity of seeing the package as it occurs in the trade, and, as has happened occasionally, that the literature as sent to physicians does not entirely agree with that accompanying the package, the assistance of the pharmacist in correctly establishing conformity with this rule will be found to be indispensable.

Rule 5 says that "No article will be admitted or retained about which the manufacturer or his agents make false or misleading statements regarding the country of origin, raw material from which made, method of collection or preparation."

The pharmacist's familiarity with the origin of the crude drugs, his knowledge of the variations and changes in botanical nomenclature and his acquaintance with the methods whereby combinations are effected, give him a peculiar advantage in assisting the correction of errors or misstatements of this kind. As an example of what is possible in this respect: the botanical name of *cimicifuga* has been successively changed from *Macrotys racemosa* to *Actaea racemosa* and that to the present form of *Cimicifuga racemosa*. It would be quite possible to make a palatable preparation of *cimicifuga* and exploit it under the obsolete title of *Macrotys*, referring to it as "an indigenous drug of unusual value in the treatment of certain nervous affections" and thus impose upon a large proportion of medical practitioners who are not aware of the manipulations to which botanical nomenclature may be subjected.

An example of a misleading statement recently came under my personal observation in the case of a cosmetic cream which was chimed to be made from the paste of the seeds of a rare and won-

derful Oriental tree, and which revealed the fact, on analysis, that the basis of the preparation was a stearic acid soap, and that it could be duplicated for less than 10 cents a pound, while the preparation with its high-sounding title and extravagant claims was sold at the price of 50 cents for a 2-ounce jar, or \$4.00 a pound—truly a handsome margin for containers, labels and profit.

Rule 8, which requires that "Every article should have a name or title indicative of its chemical composition or pharmaceutical character, in addition to its trade name, where such trade name is not sufficiently descriptive," is another of the rules in which the pharmacist is peculiarly well qualified to judge, on account of his knowledge of materials and processes.

If one-half the energy which is now devoted to the making of a few extra cents on nostrums, which in most cases are objectionable or dangerous, could be applied to the elimination of some of the evils which have crept into the profession through the inefficiency and unscrupulousness of a small minority, it would result in the establishment of an entente cordiale between the physician and pharmacist which would increase public confidence, open new avenues of legitimate profit, and bring about a condition which should never have been interrupted or suffered to lapse as has unfortunately been the case.

ACETONE COLLODIONS.¹

BY GEORGE M. BERINGER.

In a paper read before the Philadelphia College of Pharmacy in February, 1892, the writer called attention to the remarkable solvent power of pure acetone, and predicted that in the future it would be found a useful solvent in pharmacy and chemistry. (*AMERICAN JOURNAL OF PHARMACY*, 1892, fol. 147.) This prediction is fast being realized, and in the Eighth Decennial Revision of the U. S. Pharmacopœia it has been officially recognized and directed to be used as a solvent in the preparation of the official oleo-resins, with the exception of the oleo-resin of cubeb. Its solvent power for oils, resins, waxes, etc., has likewise greatly extended its use in the arts and manufactures.

¹ Read at the Meeting of the American Pharmaceutical Association, September, 1906.

The use of acetone in certain lacquers suggested its application to the preparation of collodions. Several of the so-called "liquid court plasters" now on the market contain this as a main ingredient. The intent of this paper is to publish formulas that appear to be satisfactory, without going into the details of a greater number of experiments. Suffice it to state that the simplest formulas have yielded the best results.

ACETONE COLLODION.

Take of—

Pyroxylin	5 grammes.
Camphor	1 gramme.
Acetone, a sufficient quantity to make	100 cc.

Dissolve the pyroxylin and camphor in a clean bottle with 90 c.c. of acetone and, after solution has been effected, add sufficient of the acetone to make the product measure 100 c.c. If the pyroxylin is of a good quality the solution will be prompt and perfect, otherwise it will be necessary to permit the liquid to stand until it has become clear and then decant.

Acetone collodion, as thus made, evaporates a little more slowly than the official alcohol-ether collodion, but it yields a much stronger film, which is transparent, adheres closely to the surface and is flexible without the addition of other materials. In the writer's opinion this preparation possesses advantages over both the official collodion and flexible collodion, and should displace both officially, and render the latter title unnecessary. Acetone collodion, likewise, makes an elegant basic preparation for the application of the aromatic phenols, iodine, iodoform, etc., and a number of such medicated collodions are readily prepared and are very satisfactory.

ACETONE CANTHARIDAL COLLODION.

Take of—

Cantharides in No. 60 powder	60 grammes.
Pyroxylin	4 grammes.
Camphor	1 gramme.
Acetone, a sufficient quantity.	

Moisten the cantharides with 35 c.c. of acetone, and pack in a cylindrical percolator. Close and cover the percolator and macerate for 24 hours, then percolate slowly with sufficient acetone until exhausted. Reserve the first 80 c.c. of percolate and evaporate the remainder at a low temperature (55°—60° C.) to a soft extract.

Mix this with the reserve and dissolve the pyroxylin and camphor in the mixture. Finally add sufficient acetone to make the volume 100 c.c. If not entirely clear set it aside in a cool place until it becomes clear by settling, and then decant.

This product is a clear, green-colored liquid, and possesses strong vesicant action. The camphor present is not objectionable, and its mildly stimulating effect is rather an aid to the action of the cantharides.

STYPTIC COLLODION.

The official formula for styptic collodion does not as a rule yield a clear solution of the tannic acid promptly.

Experiments with the acetone have not been satisfactory, a difficulty presenting itself which had not been anticipated or yet satisfactorily solved. While tannic acid is readily soluble in acetone to the extent officially directed (20 grams in 100 c.c.), yet when pyroxylin is added to the solution there is formed a coagulum which consists of most of the cotton associated with tannic acid. The experiments seem to indicate that acetone is not suited for the preparation of styptic collodion.

Samples of the acetone collodions produced by these formulas are presented and also samples of acetone collodions medicated with iodine and iodoform to the extent of 5 per cent.

EDUCATION AND LEGISLATION IN PHARMACY.¹

BY OSCAR OLDBERG.

A year ago you summoned me to perform the duties of chairman of this Section. These duties, as I understand them, consist chiefly in the presentation of facts and conditions which more than others seem to require our attention. I have endeavored to prepare myself for this task by studying as well as I could the most obvious present conditions and needs of our profession, the laws under which we practice it, the manner in which these laws are enforced, our standards of education, and the means by which the necessary training for the practice of pharmacy may be secured. It has been a diffi-

¹ Abstract of address of the chairman of the Section on Education and Legislation of the American Pharmaceutical Association, September, 1906. The portion on Pharmacy Laws will appear in a later issue.

cult task and I shall call your attention to only a few of the problems which I believe we are called upon to solve.

Our Relations to the Public.—Pharmacists stand in a peculiar relation to the public. This relation is too generally overlooked or ignored, or it is recognized only in a onesided fashion.

We are all willing that the practice of pharmacy shall be restricted to our hands—that none but pharmacists shall be permitted to prepare, dispense or sell medicines to the public, but we are delinquent in paying the price. Pharmacy laws have been enacted by which the people say to the pharmacist: in consideration of the protection afforded the public health by your special education and skill and your faithful service the exclusive right to sell drugs and medicines shall be yours.

In fact the people have virtually turned over to the pharmacists themselves the regulation of the practice of pharmacy, so that we are put upon our honor in carrying out our end of the contract.

The question we must be able to answer to the satisfaction of the people is this: What are the results of our administration? If these results are plainly unsatisfactory and it is found that the rights of the public and the medical profession are not reasonably satisfied, then will our stewardship be taken from us.

The public generally believes that all druggists are required by law to be competent pharmacists. But the pharmacy laws are such that if our pharmacists were not in fact better educated than these laws require them to be the public would be without that protection which it demands.

The agitation of the quack-nosstrum evil, the enactment of pure food and drug laws, the public awakening to the abuse of habit-producing drugs—these and other topics of the day must sooner or later place the pharmacy laws and the practice of pharmacy in the lime light. The public will then discover the wretchedly low legal standards of education for the practice of pharmacy and will inevitably proceed to change them without consulting us. The changes may be drastic. Shall we follow the example of the meat packers and let the storm overtake us unprepared, or shall we put our house in defensible order?

The Attitude of the Druggist toward Better Education.—Druggists complain that their business is highly unsatisfactory. Competition is excessive. Profits are small. Expenses are heavy. They say

there is no longer any scientific or technical work for the pharmacist to do. Many of them laugh at the idea that technical education is necessary in their business. They declare that higher educational requirements only increase their expenses by diminishing the supply of clerks.

I am sure the real evils we suffer from can be remedied to a great extent by a reasonable interpretation and enforcement of most of our existing laws.

It is impossible to prevent excessive competition in the drug business except by establishing higher educational requirements for the license to open or conduct a pharmacy, while the remedy for the scarcity of drug clerks lies in a rational recognition of the difference between principals and clerks. We cannot eat the cake and keep it, too. Every pharmacy law which recognizes only one class or grade of pharmacists must inevitably work injury to the public as well as to the pharmaceutical profession, for if the standard of education under such a law is high enough to really check the multiplication of drug stores a scarcity of clerks will be the unavoidable result, whereas, if the educational requirements for license are low enough to provide an abundance of clerks, these clerks will rapidly become proprietors by starting new stores. Every pharmacy law should, therefore, recognize both principals and clerks and should establish higher educational qualifications for the license which confers the right to open or conduct drug stores than for a license to practice as an assistant or clerk.

But we find that in States where the pharmacy laws do make a distinction between registered pharmacists and registered assistant pharmacists there is nevertheless an excessive number of pharmacists and a ridiculously small number of assistants. The reason must be that it is too easy to secure the higher license. Many State Board members have begun to realize this and are striving to "make the examinations stiffer."

I want to call your attention to a few facts. To make these facts clearer I shall call registered pharmacists "druggists" and assistant pharmacists "clerks." Do you know that in the State of Indiana there are nearly two druggists to every drug store and about one-fifth of one clerk? In Illinois two druggists and one-third of a clerk. In Ohio one and one-half druggists and one-third of a clerk. Not one State have I found in which the proportion of assistant

pharmacists bears a rational relation to the number of drug stores. Not one in which there are not too many registered pharmacists ready to open up new drug stores as soon as they have a chance. These conditions should be radically changed.

Compulsory graduation in pharmacy as a requirement for full license would of course serve as a check upon the increase of drug stores. Nothing else will. At the same time that is also the very thing required to satisfy the demands of the public and the medical profession. But a large number of druggists are apparently as afraid of so-called "prerequisite laws" as women are of mice. They must be blind as well as over-timid.

Am I My Brother's Keeper?—We all suffer from the reproach which our low standards of education invite. The fact that the membership of the American Pharmaceutical Association consists of pharmacists of a high order does not suffice to protect the profession as a whole from that reproach. The public and the medical profession will judge us by our laws and by the attitude of druggists in general toward better education. That our State pharmaceutical associations repeatedly vote down every proposition to increase the educational requirements in any degree brings odium upon us all. We are all bound up together. The rule "every one for himself" will not do. You are your brother's keeper whether you will or not.

The Relations between Physicians and Pharmacists.—Pharmacy as a distinct occupation will never cease to exist. Scientific pharmacy is indispensable to scientific medicine. Physicians and pharmacists who do not thoroughly recognize that truth have not studied the question.

For a generation the physicians have been weaned away from the pharmacists. They forgot that all really tried and useful drugs are either already in the pharmacopœias or sure to be included in them as soon as definitely known or recognized. There were several reasons why physicians so extensively prescribed ready-made remedies and combinations of remedies instead of writing prescriptions for these same remedies in the well-known officially recognized forms and ordering their own proportions and combinations, leaving the task of dispensing and compounding to the pharmacist. You know the whole story well.

But we should never forget that the chief reason why so many physicians deserted the pharmacists was defective education. Ignorant

and thoughtless persons are to be found in all pursuits, including the "learned professions." Ignorant, poorly educated or thoughtless physicians do not understand and appreciate the value of the services of competent pharmacists. The services of ignorant and incompetent pharmacists have no value.

Highly educated, high-minded, conscientious physicians who were unconsciously led into prescribing ready-made medicines and proprietary preparations in no way superior to the drugs and preparations of the pharmacopœia have had their attention called to the pitfalls and uncertainties of such a practice and have entered upon a vigorous reform movement which specifically promises and includes the employment of the pharmacist's services to a greater extent hereafter than ever before.

Shall we not meet these physicians more than half way? Shall we be caught napping? Shall we not clean house and welcome them? If they find that the ranks of pharmacy are recruited from the primary schools and that no professional education is required for the practice of pharmacy, they will be compelled to turn from us in disgust and dismay. They will, of course, inquire what the certificate of registration and license to practice pharmacy is worth—what it means, what protection it gives. We cannot expect them to become personally acquainted with the pharmacists so as to know of their own observation and experience whom they can afford to trust and then to compel their patients to patronize no others.

It will do us no good to tell the physicians that while our pharmacy laws do not prescribe any education they do prescribe examinations. Examination is not education and can never take its place. If you say that the purpose of the examination is to discover the education, and that education is what you really want, the rejoinder of any sane man must be: If education is what you want why do you not say so in a direct and definite way? Why do you beat around the bush? Why do you not walk in at the front door instead of trying to crawl in through the chimney? If you honestly want to exclude from the pharmaceutical profession all men who do not have enough education to make that profession respectable and respected, why do you persistently oppose even such a palpably low standard of preliminary general education as one year's high-school work?

Physicians are reasonable when they say that high school gradu-

ation is not too much to ask of all who propose to become pharmacists. They are more than justified in saying that to admit primary-school boys to the ranks of the pharmaceutical profession is conclusive proof of utter contempt for the rights of the public and the medical profession and a sad evidence of the low estimate which pharmacists themselves place upon the importance of their services.

Prof. William Procter, Jr., whose memory we are specially honoring at this meeting, was an earnest advocate of better preliminary education for the apprentices in drug stores. Yet, the apprentices of his day were of a higher grade educationally than those of to-day.

The opposition to respectable educational standards comes largely from the so-called "self-made" men who boast that they succeeded without education. They are no doubt sincere. But a self-made man often has a too high opinion of his own value and power and a too low opinion of those who are better equipped than he. If the want of education insures success then the self-made man has nothing to boast of. The self-made man who is really great and strong is he who fully realizes how much stronger he would have been if he had not been self-made.

Intelligent men want neither self-made physicians nor self-made pharmacists.

Our Schools of Pharmacy.—At this writing we have probably eighty-seven schools of pharmacy. There have been several births and deaths during the past year.

An excessive number of educational institutions is not an unmixed blessing.

Here in the State in which we are holding this meeting there are five pharmaceutical schools. In Ohio there are eight. It is impossible that eight pharmaceutical schools can be required and maintained in a condition of reasonable efficiency in any one State.

I have no recommendation to make in regard to this embarrassing wealth of educational machinery, but will say that the Boards of Pharmacy have the power and means by which schools that are unable or unwilling to give good and sufficient courses and which are not properly equipped and do not have reasonably sufficient resources or means of support may be denied that recognition which is clearly due under the pharmacy laws to all efficient schools.

Many of our schools of pharmacy have fine buildings of their own, or less pretentious but still adequate homes. Others are well housed by universities and other institutions. Several of our pharmaceutical schools have a long and honorable record. Several have faculties composed of men of national reputation. Several have ample equipments. Several give very substantial courses of instruction of a high grade.

Let us not commit the unpardonable sin of ignoring or losing any of these advantages. Let us foster right education. Let all schools that have any good in them do their best. Let the Boards of Pharmacy take a year, if need be, to learn the facts about our schools and give positive aid and encouragement to them. Let the Boards consult them all. Let no mistakes be made. Let all have a square deal.

The Pure Food and Drug Law.—The National Pure Food and Drug Law passed by Congress this summer contains several features of vital interest to pharmacists. In the first place it specifically recognizes the Pharmacopœia of the United States and the National Formulary. This recognition of the Pharmacopœia and Formulary should prompt us in the future revisions of these two works to carefully consider their added importance. One of the most desirable reforms in this connection would be to eliminate from the Pharmacopœia all formulas for therapeutic combinations and remedies containing two or more different therapeutic agents, and to include all such remedies in the National Formulary, while the Pharmacopœia should include all simples and all substances of definite chemical composition together with galenical preparations representing single drugs.

One regrettable feature of the Pure Food and Drug Law is the proviso that the titles of the Pharmacopœia and National Formulary may be used in the sale of articles not conforming to the standards of those authorities provided the seller indicates the deviation. It is fortunate that the law as passed does not contain the absurd proviso that morphine, cocaine, etc., may be sold freely without indicating the composition on the package provided the percentage of poison falls below a certain stated limit. Any thinking man must recognize that the presence of a sufficient quantity of any habit-producing drug in any preparation to give any effect whatever must carry with it the habit-producing effect, and that if a smaller quantity

is contained in the preparation it might as well be omitted altogether. Moreover, no matter how small the per cent. of cocaine or morphine the preparation may do just as great harm because the doses taken may be multiplied.

The new law regulating the practice of pharmacy in the District of Columbia contains this absurd proviso, but I suppose that the new Pure Food and Drug bill, which is of later date, annuls that feature of the law applying exclusively to the District of Columbia.

The Section on Pharmacology and Therapeutics of the American Medical Association.—The chairman of the delegation from the American Pharmaceutical Association to the Section on Pharmacology and Therapeutics of the American Medical Association, Mr. H. P. Hynson, of Baltimore, delivered an address at the annual session of the Association, June 5th, in which he set forth the relations of the pharmacist to the medical profession in an admirable manner. Dr. Hynson's address is published in the August number of the *Bulletin* of the American Pharmaceutical Association.

Surely the American Pharmaceutical Association should continue to utilize this means of annual communication with the American Medical Association to cultivate a better understanding of the duties of pharmacists toward medicine and of the physicians toward pharmacists. Never before within my recollection has the time been more auspicious for cordial co-operation between the medical profession and the pharmacists of the country because the desire of the physicians to again make full use of the services of the pharmacists is strong and clear.

Proprietary Remedies.—The American Medical Association, as you know, has undertaken in an effective way the investigation of the merits and character of proprietary remedies. It has established a Council on Pharmacy and Chemistry composed of physicians, pharmacists and chemists of the highest standing which is doing very valuable work. I strongly recommend that the American Pharmaceutical Association place itself on record as in hearty sympathy with this movement and that it recommend to the schools of pharmacy active co-operation in the work of the Council. Members of the Faculties of the schools and their post-graduates can do a considerable amount of work with the facilities the schools have at their disposal, and many members of the American Pharmaceutical Association are doubtless able to lend assistance in the same manner.

In Conclusion.—I have endeavored, with the help of my associates, to formulate certain general principles which seem to require discussion and action. These propositions have been circulated among the members of the American Pharmaceutical Association, the Boards of Pharmacy and Pharmaceutical Schools, and unless the printed matter so circulated has gone to the waste basket we shall be prepared to do some actual work at these meetings.

The programme is before you, and although the novelty of its features must have worn off, I appeal to you to go through the whole programme, dry as it may seem, as a matter of duty to the whole body of pharmacists in this country and I trust further that our deliberations will be free from the friction which is often generated by differences of opinion. Let us all be governed by the one desire to further the welfare of our fellowmen and the true interests of our ancient and honorable calling.

THE AMERICAN PHARMACEUTICAL ASSOCIATION. FIFTY-FOURTH ANNUAL MEETING.

—BY M. I. WILBERT.

The fifty-fourth annual meeting of the American Pharmaceutical Association, held in the city of Indianapolis, Ind., September 3–8, 1906, will long be remembered by those who had the privilege of being present, as a meeting fraught with possibilities that fully came up to, if not exceeded, the fondest expectations of the friends of American Pharmacy.

It is undoubtedly true that there have been meetings that were more numerous attended, and also meetings at which more papers were read and discussed, but it would be difficult indeed to single out any one previous meeting of the Association at which such vitally important subjects as education and legislation were discussed more thoroughly or more satisfactorily than they were in connection with the fifty-fourth annual meeting of the American Pharmaceutical Association. The work of other sections, while fully up to the average, was, for the once, completely overshadowed by the consideration shown to, and the attractions offered by, the program of the section on Education and Legislation. A more detailed account of the work that was done will be given in connection with the report

on section meetings and it will, therefore, suffice to call attention to this particular phase of the meeting in this general way.

FIRST GENERAL SESSION.—The first general session of the Association was called to order in the palm-room of the Claypool Hotel by the president, Mr. Joseph L. Lemberger, on the afternoon of Monday, September 3, 1906.

After the presentation of the usual greetings, and messages of welcome, from local and State officials, the president read the annual address.

In the course of his remarks, which were largely devoted to a review of "what has been accomplished by American Pharmacy," Mr. Lemberger outlined the evolution and development of pharmacy since the organization of the American Pharmaceutical Association and also referred at some length to a number of the contemporaneous changes that have been brought about in other lines of research and industry.

Mr. Lemberger also recounted some of the more interesting and important problems that presented themselves for solution, and called attention to the work that had been outlined for the several sections of the Association.

In conclusion the president offered a number of suggestions or recommendations that he deemed worthy of immediate consideration. Among the more important, he recommended that the American Pharmaceutical Association continue the publication of the *Bulletin*; that the Association endorse the action of the American Medical Association to promote the organization of a department of public health, and also commend and aid in enforcing the recently enacted national pure food and drug law.

This address was, on motion, referred to a committee of three to report at a subsequent meeting.

The poll of members of the nominating committee indicated that members from 26 States and Territories were present on the first day of the meeting of the Association.

SECOND GENERAL SESSION.—Tuesday, September 4, 1906. After the reading of the minutes of the first general session and the presentation of greetings from affiliated bodies, Prof. Remington presented a letter containing greetings from Dr. S. S. Cohen, a former chairman of the section on Pharmacology and Therapeutics of the American Medical Association.

The portion of this letter referring more directly to the work of the American Pharmaceutical Association was as follows:—

"If I may assume to speak for clinical therapeutics to the representatives of pharmacy, I would say:—

"Gentlemen: I depend on you in my efforts to help my patients, to get them well. I depend on your knowledge, your skill, your science, your enterprise, but above all upon your fidelity. I trust you, you are my armor bearers as I fight disease. If my spear is dull, my bowstring slack, my arrows unfeathered, my sword rusty, my shield pierced, death awaits them that I would protect. But give me weapons that I can depend upon and I go into battle hopefully, with the determination to conquer.

"The efforts that you and your co-workers are making to restore pharmacy to the rank of the learned professions and to advance the status of the pharmacist have my earnest sympathy and my sincere co-operation.

"Let us stand together for clean medicine and upright pharmacy; let us oppose quackery, fraud and pretense within as well as without our ranks. Let the American Pharmaceutical Association join the American Medical Association in its determination that the errors of the past shall be corrected, that the interests of the people, the interests of science shall be our own chief interests; and that all selfish obstructionists shall be silenced or shamed.

"Then we can confidently face the future, sure of what is better than the mere achievement of success—the deserving of it."

The reading of this communication was followed by the report of the delegates from the American Pharmaceutical Association to the meeting of the Section of Pharmacology and Therapeutics of the American Medical Association.

The election of officers resulted in the selection of the following:—

President, Leo Eliel, South Bend, Ind.; First Vice-president, Wm. Mittelbach, Boonville, Mo.; Second Vice-president, C. S. N. Hallberg, Chicago, Ill.; Third Vice-president, Thomas P. Cook, New York, N. Y.; General Secretary, Charles Caspari, Jr., Baltimore, Md.; Treasurer, S. A. D. Sheppard, Boston, Mass.; Reporter on the progress of pharmacy, C. Lewis Diehl, Louisville, Ky. Members of the Council: Joseph L. Lemberger, Lebanon, Pa.; Joseph P. Remington, Philadelphia, Pa.; Charles E. Dohme, Baltimore, Md.

Subsequently I. A. Keith, of Preston, S. D., was elected a

member of council for the unexpired term of Mr. Mittelbach. Thomas P. Cook, New York, was elected Local Secretary.

SECTION ON EDUCATION AND LEGISLATION.

OSCAR OLDBERG, Chairman.

JOS. W. ENGLAND, Secretary.

The first meeting of the Section on Education and Legislation was called to order by the chairman on Tuesday afternoon. The first order of business being the address of the chairman this was immediately proceeded with. This address constituted a rather exhaustive review of: "Our relations to the public, the attitude of druggists towards better education, the relations between physicians and pharmacists, our pharmacy laws, the powers of boards of pharmacy, the requirements for license, our schools of pharmacy, and, finally, the presentation of certain general principles which seem to require discussion and action."

This address was presented to what was probably the largest, most attentive and most directly interested audience ever present at the meeting of this, or any other, Section of the American Pharmaceutical Association.

The report of the secretary, Mr. Jos. W. England, contained a resumé of the replies received from seventy schools of pharmacy. Much of this information had been arranged in tabulated form, and will, undoubtedly, be found to be of great value when published in a form to be carefully studied.

The discussion of the propositions contained in the printed programme was then proceeded with. The first of these is: "All laws and regulations governing the licensing of pharmacists should make due distinction between apprentices, clerks and principals, and should establish definite minimum qualifications and indicate the rights and duties of each of these three classes of pharmaceutical workers."

This proposition was, on motion, approved. The second proposition elicited considerable discussion. It read as follows:

"The age of seventeen years and a preliminary general education of one year's satisfactorily completed high-school work, or its educational equivalent, should be the minimum prerequisites to the practical pharmaceutical experience or apprenticeship demanded by the laws, and no drug-store experience acquired at an earlier age or before the attainment of the preliminary education prescribed should be accepted as sufficiently effective to satisfy the intent of the law."

In connection with this proposition Dr. O. A. Wall, of St. Louis, read a paper in which he asserted that the compulsory requirement of preliminary education was un-American and unfair to a large number of the young men of our country, he deplored the drifting of colleges of pharmacy from the teaching of commercial branches of pharmacy into an ultra scientific field.

Dr. Taylor, of New York, called attention to what he considered to be inaccuracies in the paper presented by Dr. Wall and expressed the opinion that the requirements contained in the original proposition were reasonable and readily attainable.

The proposition was further discussed at some length without reaching a definite conclusion when adjournment was called for.

SECOND SESSION, Tuesday, September 4, 1906.—The section was called to order on Wednesday morning when the chairman announced that the committee directly in charge of the programme of this section had recast several of the propositions and desired to present them in this revised form.

This being agreed to the secretary was requested to read the propositions, as follows:

(1) No person shall be licensed to practice as an assistant pharmacist who has not attained the age of twenty-one years.

(2) The pharmaceutical training and experience required for the licensing of assistant pharmacists should together occupy not less than four years, all of which may consist of drug store practice, or may consist of three years' drug store practice and one academic year's work in a pharmaceutical school, or of two years' drug store practice and two academic years' work in a school of pharmacy.

(3) No person should be licensed as a registered pharmacist and given the right to conduct a pharmacy who has not served at least two years as an assistant pharmacist.

(4) The pharmaceutical college training and drug store experience required for the licensing of registered pharmacists should together occupy not less than five years, of which not less than three years should be drug store experience, and graduation from an approved school of pharmacy should be required of all candidates for license as registered pharmacists.

(5) All candidates for license to practice pharmacy should be required to pass such examinations as may in the opinion of the Board of Pharmacy be deemed necessary. Due credit should be

given for successfully completed courses in approved pharmaceutical schools, but all candidates should be examined upon their ability to correctly read and dispense prescriptions.

(6) A preliminary general education of not less than one year's satisfactorily completed high-school work, or its educational equivalent, should be required as a prerequisite to the pharmaceutical experience or apprenticeship required for license and for admission to pharmaceutical schools.

These suggestions were vigorously discussed for upwards of three hours, but were severally adopted, as proposed by the chairman, and referred, as the suggestions of the Section on Education and Legislation of the American Pharmaceutical Association, to the conference of Pharmaceutical Faculties and the National Association of Boards of Pharmacy.

PAPERS PRESENTED TO THE SECTION.

The reading of miscellaneous papers that had been presented to the section was then proceeded with. The first to be read was:—

THE A. PH. A. THE POST-GRADUATE COURSE FOR THE RETAIL PHARMACIST.

By C. S. N. Hallberg.

The author of this paper dwelt at some length on the advantages of taking an active interest in association work and also suggested how members of the association could enlarge on their present field of usefulness.

STORE EXPERIENCE.

By Clement B. Lowe.

The author of this paper believes it to be a mistake not to require store experience for graduation in pharmacy. He believes that there are many stores that can and do give young men excellent practical experience.

SOMETHING TO THINK ABOUT.

By W. F. Kammerer.

The paper includes a discussion of present-day conditions, as they appear to the author, and constitutes a strong plea for shorter hours and better opportunities for those engaged in the retail drug store.

The following papers were read by titles:

THE LEGAL RECOGNITION OF THE U. S. P.

By Joseph W. England.

A. PH. A. NARCOTIC LAW MODEL.

By James H. Beal.

WHAT ATTITUDE SHOULD THE DRUG TRADE ASSUME TOWARD
PATENT MEDICINE LEGISLATION?

By Harry B. Mason.

A SYMPOSIUM OF THE PRINCIPAL PROVISIONS OF THE FEDERAL
PURE FOOD AND DRUG LAW.

By James H. Beal.

CORRESPONDENCE COURSES IN PHARMACY.

By James H. Beal.

The officers for the coming year are : Oscar Oldberg, chairman ;
and Joseph W. England, secretary.

JOINT CONFERENCE OF BOARDS AND FACULTIES OF PHARMACY.

The joint meeting of the members of the National Association
of Boards of Pharmacy and of the members of the Conference of
Pharmaceutical Faculties was held on the afternoon of Wednesday,
September 5, 1906.

Mr. Irvin A. Keith, of South Dakota, was elected to preside, and
Prof. Clement B. Lowe, of Pennsylvania, was selected as secretary.

After some discussion all of the recommendations adopted by the
Section on Education and Legislation were endorsed.

The fourth recommendation was slightly amended, by adding :
" Provided, however, that when any licensed assistant pharmacist
attends upon the courses of instruction at a school of pharmacy
subsequent to the date of his license as such, the time occupied by
such school attendance may be deducted from that two-year service."

The conference then proceeded to the consideration of additional
recommendations contained in the preliminary programme issued by
the Joint Committee. The following recommendations were
approved :—

(7) In the determination of the fitness of any applicant to receive a license
to practice pharmacy, all important facts of his educational history, practical
experience and technical services should be taken into account, including his
preliminary general education, his special education in pharmaceutical and
other related technical schools, his practical experience in pharmacy and the

results of the examinations he has passed, and an average of these several factors, each assigned its appropriate value, should be adopted as the passing grade.

(8) Definite and uniform conditions of efficiency should be adopted which all pharmaceutical schools must comply with in order to receive recognition by the Boards of Pharmacy in all cases where students and graduates of such schools receive credit in any form for the courses they have completed or for the time of attendance at such schools, these conditions of efficiency to be made public and to be applied equally to all schools.

The conditions of efficiency prescribed for the recognition of schools of pharmacy should relate solely to matters affecting the character of their educational work.

(9) Special education for the practice of pharmacy is in this age a necessity and should as rapidly as possible be made compulsory, and the rules of the Boards of Pharmacy should be such as to promote and encourage it in all practicable ways.

The special pharmaceutical education required should include substantial laboratory courses.

(10) A Syllabus of Pharmacy Examinations should be prepared which shall indicate the subjects to be included in the Board examinations as well as in the courses of instruction in the pharmaceutical schools, with the view to the attainment of a reasonably uniform standard of minimum requirements which may be adopted by all Boards and Schools.

(11) A national Committee on Examination Questions should be appointed by the National Association of Boards of Pharmacy, which committee should consist of members, including experienced specialists in the subjects mentioned in the Syllabus of Pharmacy Examinations, who shall, under the direction of the said Association, prepare questions suitable for the examinations to be held by such State Boards of Pharmacy as may avail themselves of the services of said Committee.

(12) We recommend to all concerned that the foregoing principles and standards be adhered to in any amendments to the pharmacy laws hereafter proposed in order that national uniformity may be ultimately attained. The minimum requirements indicated, and especially the preliminary general education, should be increased from time to time as circumstances permit.

We further strongly urge that the Boards of Pharmacy employ the discretionary powers already theirs under the existing laws to improve the educational status of the pharmacists of the future.

The Joint Conference adjourned subject to a call for reorganization at the next annual meeting of the conference of Teaching Faculties and the National Association of Boards of Pharmacy.

SECTION ON SCIENTIFIC PAPERS.

CHARLES E. CASPARI, Chairman.

M. I. WILBERT, Secretary, *pro tem*.

FIRST SESSION.—The first session of this section was held on Thursday, September 6, 1906. The address of the chairman con-

sisted of an interesting and readily followed review of the uses of physical forces, particularly electricity, in chemistry and attention was more particularly directed to the electrolysis of organic compounds. Following the address by the chairman the Committee on Ebert Prize, through its chairman, Prof. W. A. Puckner, announced that the prize had been awarded to J. O. Schlotterbeck for his "Contribution on the Chemistry of Bocconia Cordata."

The report of the committee on Drug Market was presented, in abstract, by Lyman F. Kebler.

The consideration of original contributions was then proceeded with as follows:—

OTTO OF ROSE.

By John Uri Lloyd.

Professor Lloyd presented several authentic samples of otto of rose, and also described how he was able to secure the specimen of otto of white rose and otto of red rose directly from the still.

CHEMICAL EXAMINATION OF ERIODICTYON.

By F. B. Power and Frank Jutim.

This paper was presented in abstract by Prof. Charles Caspari, Jr. It consists of a review of the literature and records of previous examinations and also recounts in detail the results of the present examination.

THE BOTANICAL CHARACTERS OF SOME CALIFORNIA SPECIES OF
GRINDELIA.

By P. E. F. Perrèdes.

This paper was also presented in abstract by Professor Caspari. It contains the account of an extensive investigation of the grindealias of commerce. The most widely used and most frequently met with species, at the present time, is *Grindelia Camporum*.

SEPARATION OF MORPHINE FROM GLYCERIN.

By H. M. Gordin. In collaboration with W. H. Harrison.

From a solution of a morphine salt in glycerin the alkaloid is not precipitated by alkaline carbonates. The glycerin cannot be driven off by steam at temperatures that would not injure the morphine. Removal of glycerin by converting it into a lead compound by means of PbO and subsequent treatment with hot amyl alcohol gave negative results. Owing to the solubility of glycerin in amyl

alcohol direct shaking out with this solvent does not work. Best method is to dilute glycerin solution with water and precipitate morphine as periodide by Wagner's reagent. From the periodide the alkaloid is recovered in the usual way. About 80 per cent. of morphine is recovered by this method. (See p. 464).

SOME ALKALOIDAL ASSAYS.

By H. M. Gordin.

By means of three special apparatus alkaloidal assays can be made more exact. Instead of ammonia fixed alkali or alkaline carbonates can be used to set alkaloids free. By using proper immiscible solvents no alkali contaminates alkaloids except traces of ammonia formed by action of alkali upon the albuminous matter of drug. Concentrations of ethereal solutions of alkaloids can be carried out in a special separating funnel and thus transferring of liquid from vessel to vessel avoided. Exact separation of immiscible solvents is accomplished by using separating funnel with two outlets. (See p. 458).

GELSEMIUM.

By L. E. Sayre.

A further study of the fresh and dry root with reference to the alkaloidal content in the two conditions. The fresh root was carefully collected and a portion of the same dried. The two were analyzed, or assayed. The present paper is a sequel to the one presented to the Association last year, and touched upon the question of the process of assay of gelsemium.

COMMERCIAL COCOAS.

By Wilbur L. Scoville.

A comparison of the analytical data obtained from ten popular brands of cocoa.

The second session of the Section on Scientific Papers was called to order on Friday, September 7th, when the following papers were presented:—

A METHOD FOR THE PREPARATION OF SOLUTIONS OF THE ACTIVE PRINCIPLE OF THE SUPRARENAL GLAND.

By Charles E. Vanderkleed.

The author, in this paper, describes a method for preparing a solution of the active principle directly from the suprarenal gland.

The paper also contains a review of the literature and a resumé of the previous work done in connection with the isolation of the active principle of the suprarenal gland.

**DETERMINATION OF PHOSPHORUS IN PHOSPHORATED RESIN AND IN
OTHER PHARMACEUTICAL PREPARATIONS.**

By Joseph L. Turner and Charles E. Vanderkleed.

The phosphorus is oxidized with nitric acid; the organic matter is oxidized by the Kjeldahl method and the phosphorus finally determined as magnesium pyrophosphate.

A SIMPLE METHOD OF TESTING PEPSIN.

By Frank R. Eldred and W. C. Bartholomew.

A comparison of the results obtained in testing several commercial pepsins by the methods of the seventh and eighth revisions of the U.S.P., and by methods based upon the amounts of peptones and albumoses formed in solutions and suspensions of egg-white during definite periods.

DETECTION OF SMALL QUANTITIES OF COPPER AND IRON IN GLYCERIN.

By S. K. Kahn.

This paper was read by Dr. C. B. Lowe and describes a method for absorbing the salts of copper, present in hot solutions, by means of stearic acid.

CACTUS GRANDIFLORUS.

By L. E. Sayre.

A study of the constituents of the drug. Authentic material was obtained, consisting of the stems of the plant. Five pounds of the fresh, finely chopped stems were properly extracted. The resulting tincture was examined and a special study of the physiological action of the preparation was given. The whole work was performed with reference to the question before the Committee of Revision of the Pharmacopœia: Shall Cactus be admitted into our official standard?

A number of tracings presented in connection with this paper were further explained by Dr. Reid Hunt.

**METHOD FOR THE ASSAY OF OINTMENTS CONTAINING EXTRACTS OF
BELLADONNA, STRAMONIUM AND HENBANE.**

By Charles E. Vanderkleed.

METHODS FOR THE ANALYSIS OF GRANULAR EFFERVESCENT SALTS.

By Charles E. Vanderkleed and Joseph L. Turner.

ESTIMATION OF ALOIN IN ALOES.

By Frank R. Eldred and C. A. Jennings.

COLOR TEST FOR METHYLENE-BLUE.

By L. N. Sahm and William Mittelbach.

It is shown that the adulteration of methylene-blue may readily be detected by a comparison of color stains on paper by solutions of definite strength.

THE BEHAVIOR OF ALKALOIDAL SALTS TOWARDS IMMISCIBLE SOLVENTS.

By Dr. Edward Schaer.

This paper was presented in abstract by W. A. Puckner and contains a review of some thesis work done in the University of Strassburg.

TINCTURE OF NUX VOMICA, U.S.P. 1900.

By Joseph W. England.

This is a review of the history of the tincture of nux vomica in the several editions of the U.S.P. and a recommendation for the reversion to the original method of making the tincture directly from the drug.

A COMPARISON OF THE SEVENTH AND EIGHTH U.S.P. REQUIREMENTS FOR MORPHINE IN TINCTURE OF OPIUM.

By Theo. D. Wetterstroem.

The lime-water purification of morphine in the U.S.P., VIII, would seem to demand a minimum requirement of 1.15 grammes morphine per 100 c.c. tincture of opium.

PERCENTAGE OF ALCOHOL REMAINING IN FLUID EXTRACTS.

By Joseph Feil.

The following papers were read by title:—

OIL OF SANTAL.

By A. R. L. Dohme.

PRELIMINARY PAPER ON THE USE OF THE COLORING MATTER IN GRAPE SKINS AS AN INDICATOR.

By E. V. Howell.

CEDAR LEAF OIL.

By F. W. Brandel.

ARTEMISIA OIL.

By Edward Kremers.

EUCALYPTUS OIL.

By Edward Kremers.

The special discussion that had been arranged for on "The Assay Methods of the U. S. P." was, on motion, extended to include that portion of the report of the committee on the revision of the United States Pharmacopœia which related more specifically to the assay processes.

This report was read by Dr. Lyons and the subsequent discussion was participated in by a number of the members present.

A motion was offered suggesting that the American Pharmaceutical Association request that the Committee on Revision issue a supplement to the Pharmacopœia of the United States VIII, containing such changes in assay processes as are deemed important.

This motion was subsequently amended and the Secretary of the Section was instructed to transmit to the Chairman of the Committee on Revision, a synopsis of the suggestions for corrections and changes that may be offered by members of the section.

After some additional, rather informal, discussion on the official assay processes for essential oil, the section adjourned.

The officers for the ensuing year are : Chairman, Reid Hunt ; and Secretary, Virgil Coblentz.

SECTION ON PRACTICAL PHARMACY AND DISPENSING.

WM. C. ALPERS, Chairman.

H. A. B. DUNNING, Secretary.

The first meeting of the Section on Practical Pharmacy and Dispensing was held on the evening of Thursday, September 6, 1906, at 8 o'clock.

The address by the chairman consisted of a study of conditions in foreign countries, based on communications received from United States Consular agents, through the Secretary of State, Mr. Elihu Root.

The replies emanated from all parts of the world and are a fair indication of the practices, advantages as well as the disadvantages of pharmacists in the several countries from which replies were received.

Among the papers presented at the initial meeting we mention:

SYDENHAM'S LAUDANUM.

By M. I. Wilbert.

This paper consisted of a review of the history of Sydenham's Laudanum and constitutes a plea for the introduction of the "Tinctura opii crocata," a formula for which was included in the final protocol of the International Conference for the unification of the formulas of potent medicaments.

LABORATORY NOTES.

By H. A. B. Dunning.

This paper contains a large number of practical suggestions on a variety of official preparations and pharmaceutical processes.

SECOND SESSION.—Friday, September 7, 1906.

A SQUARE DEAL PRESCRIPTION BLANK.

By F. M. Apple.

The writer of this paper makes a strong plea for the introduction and use of a prescription blank which places the responsibility for the refusal to renew prescriptions clearly on the physician.

THE FATTY FACTORS OF UNGUENTS.

By Frank E. Fisk.

In this paper the author calls attention to the puzzling problems that confront the pharmacist in connection with fixed oils and analogous problems. He further discusses the sources of the difficulty, its prevention and its cure.

CIRCULATORY DISPLACEMENT IN MAKING PHARMACEUTICAL PREPARATIONS.

By William C. Alpers.

In connection with this paper the author gave a demonstration of how many solutions could be made, advantageously, by means of circulatory displacement.

CRITICISM OF PRESCRIPTIONS COLLECTED FROM EVERYWHERE.

By H. A. B. Dunning.

This contribution consisted of a rather general discussion and criticism of a very large number of prescriptions or formulæ.

ACETONE COLLODIONS.

By George M. Beringer.

This paper, owing to lack of time, was read by title. (See p. 470).

The officers of the Section for the ensuing year are: H. A. B. Dunning, Chairman; Joseph Weinstein, Secretary; F. M. Apple, Associate.

SECTION ON COMMERCIAL INTERESTS.

H. P. HYNSON, Chairman.

H. D. KNISELY, Secretary.

The first session of the Section on Commercial Interests was called to order by the chairman, Mr. H. P. Hynson, on the evening of September 4, 1906.

After extending the usual greeting to the members present, the chairman called on the delegates from the several State pharmaceutical associations to outline the several methods, proposed or adopted, for improving the commercial condition of the retail drug trade in their own State.

In connection with these reports the possible effect of the introduction of parcel post was discussed at some length. Among other subjects of immediate interest, the direct responsibility of retail druggists for vending adulterated or impure drugs and chemicals was also given more than usual consideration.

The discussion on co-operative buying was one of unusual interest in that it evidenced how widely varied are the opinions that can be formed on any one subject. Among the contributions on this subject, the following papers represent probably the extremes.

ADVANTAGES OF CO-OPERATIVE BUYING.

By W. C. Anderson.

The author believes that co-operative buying clubs of from 10 to 300 members are born of necessity rather than choice. He also believes that the objects that are sought are worthy and are of benefit to all, even the smallest dealer, chief among these advantages is the possibility of securing fresh stock in small quantities, at a minimum price.

RESULTS OF CO-OPERATIVE BUYING.

By M. N. Kline.

This paper was read by Mr. Joseph W. England. The author believes it to be unprofitable and impracticable for associations of

retail druggists to engage in co-operative buying. He believes that co-operative manufacturing is even more hopeless.

OBJECTIONS TO CO-OPERATIVE BUYING.

By William Mittelbach.

Disadvantages greater than advantages. Co-operative buying eliminates competition. Under present conditions jobber is necessary to quickly distribute goods, particularly in sparsely settled territory.

The general discussion on co-operative buying was participated in by Messrs. Sherman, Apple, Alpers and others.

WOMEN AS DISPENSERS AND UNPHARMACEUTICALLY TRAINED SALES- WOMEN.

By Charlotte E. Stinson.

Prejudice, still existing in some quarters, against women at the prescription counter and in the drug store, is held only by those who have never employed, or worked with women in these capacities.

THE SECOND SESSION of the Commercial Section was held on the afternoon of September 7, 1906. The first paper of the afternoon:

PROFITS AND LOSSES: ELEVEN DRUGGISTS AND THEIR INCOMES.

By Harry B. Mason.

A collection of statements indicating the gross profits and net earnings of druggists in different sections of the country. Suggestive facts. A plea for more complete records. Inaccurate records are better than none.

A SYMPOSIUM ON STOCK: Identification and Preservation, was taken part in by H. H. Rusby, who spoke of crude drugs, and Charles Caspari, Jr., who spoke at some length on galenicals.

This was followed by an interesting and, at times, animated discussion.

The following papers were accepted by title:—

CLERKS AND ASSISTANTS; THEIR PROFITABLE EMPLOYMENT.

By Andrew J. Eckstein.

BUYING; HOW, WHEN AND WHAT TO BUY.

By Stanley B. Simpson.

THE PHARMACIST'S BIRTH-RIGHT.

By Louis Schulze.

COMMERCIAL POSSIBILITIES OF LOCAL BRANCHES.

By M. I. Wilbert.

MACHINE-MADE VS. HAND MADE SOLUBLE ELASTIC CAPSULES.

By A. M. Hance.

COMMERCIAL ETHICS; TRUE SUCCESS IN PHARMACY.

By George C. Bartells.

The officers for the ensuing year are: Chairman, H. D. Knisely; Secretary, Charles H. Avery; Associates, W. C. Powell, Charlotte E. Stinson, J. R. Francis.

SECTION ON HISTORICAL PHARMACY.

JOHN F. HANCOCK, Chairman.

C. S. N. HALLBERG, Secretary.

EDW. KREMHRS, Historian.

The first session of this section was called to order on the morning of September 7, 1906, by John F. Hancock, the chairman.

The address of the chairman contained several suggestions for the future conduct of the section that were referred to the officers for the ensuing year.

The annual report of the historian contained a detailed account of what had been accomplished during the past year and recommended that the exhibition in connection with the meetings of the American Medical Association, which had been inaugurated in connection with the meeting of the American Medical Association in Boston, during the past Summer, be continued.

ORIGINAL PAPERS.

Among the contributions presented were:—

AN EARLY FORERUNNER OF THE NATIONAL FORMULARY.

By M. I. Wilbert.

**A COLLECTION OF INTERESTING HISTORICAL MATERIAL, INCLUDING
A PRESCRIPTION BOOK USED IN RALEIGH, N. C.,****DURING THE CIVIL WAR.**

By E. V. Howell.

The prescription book constitutes an interesting reminder of conditions and practices during the Civil War. The prevailing prices for prescriptions being from two to ten dollars, the latter being the price asked for 12 pills containing 24 grains of quinine sulphate.

HISTORICAL SKETCH OF THE NEW JERSEY PHARMACEUTICAL
ASSOCIATION.

By Edward A. Sayer.

REMINISCENCES.

By Ewan McIntyre.

This communication constituted an interesting series of personal reminiscences from 1842, when the writer entered a retail drug store in the city of New York, and included a rather detailed account of the occurrences which led up to the organization of the American Pharmaceutical Association.

LETTERS FROM EARLY PHARMACISTS, NOW DEAD, ALSO OTHER
MATERIAL.

Presented by John F. Hancock.

CONTRIBUTIONS TO A PHARMACOGRAPHIA AMERICANA.

By Edw. Kremers.

The SECOND SESSION of the Section on Historical Pharmacy was held on the evening of September 7, 1906, as a Sloan-Procter memorial meeting.

The Secretary read several letters from former employees and friends of Mr. Sloan.

The Chairman then introduced Mr. A. E. Ebert, an old friend and associate of Mr. George W. Sloan, who presented an essay entitled:—

GEORGE W. SLOAN AS A PHARMACIST.

This was followed by a paper by J. F. Hurty eulogizing "George W. Sloan as a citizen."

The memory of William Procter, Jr., was reviewed by Prof. Jos. P. Remington, who read an interesting paper recounting personal reminiscences.

The Secretary of the Section read several letters that had been contributed by older members of the Association; among others, G. P. Sharp and William Saunders.

The officers for the ensuing year are Ewan McIntyre, Chairman, and E. G. Eberle, Secretary.

CONTINUED SECOND SESSION OF THE ASSOCIATION.

The continued second session was called to order on Saturday morning, September 8, 1906, at 9 o'clock.

The business transacted was mainly of a routine nature and consisted largely of reports of committees.

The report of the Committee on National Formulary was received and the Secretary of the Association was instructed to secure for it widespread publicity.

The committee on time and place of meeting recommended that the next annual meeting be held in the city of New York.

THIRD GENERAL SESSION OF THE ASSOCIATION.

The third general session of the Association was called to order immediately after the adjournment of the continued second session on Saturday morning, September 8, 1906.

From the minutes of the council it was learned that 311 new members had joined the Association since the meeting in Atlantic City, N. J., in 1905, and that the total active membership was 1,989.

The Committee on Resolutions, through its chairman, Professor Hallberg, presented a number of resolutions that were endorsed by the Association.

From the Section on Commercial Interests the committee offered a resolution against the introduction of parcel post.

Another resolution from the same section commended the work of women pharmacists.

The committee on its own behalf introduced a resolution endorsing the work of the Council of Pharmacy and Chemistry of the American Medical Association.

A second resolution provided for the appointment of a committee to inquire into the feasibility of reorganizing the machinery of the American Pharmaceutical Association.

A third resolution expressed the wish that the recently enacted pure food and drug law be properly enforced.

The final resolution extended the sympathies of the Association to the members of the profession in San Francisco and adjoining territory in their loss sustained during the recent catastrophe.

After the introduction of the officers for the ensuing year, and the usual vote of thanks to the retiring officers and others who had contributed to the success of the present meeting, the Fifty-fourth Annual Session of the American Pharmaceutical Association was declared adjourned.

NEW AND NON-OFFICIAL REMEDIES.

Pharmacists generally should be more than ordinarily interested in the preliminary publication of material for the proposed book on "New and Non-official Remedies" which has been compiled by the Council on Pharmacy and Chemistry of the American Medical Association.

The first instalment of this material appears in the *Journal of the American Medical Association* for September 15, 1906, and includes 23 titles. It is announced that successive instalments will be published weekly until all of the available material has been printed.

The primary object of this preliminary publication is to secure from physicians, pharmacists and others who may be interested, comments and criticisms for the purpose of avoiding errors and correcting mistakes.

It is intended that the book itself should appear as an annual and serve as a reference book, for physicians, on the available newer remedies that are, or appear to be, all that is claimed for them and therefore worthy of support.

As pharmacists must necessarily be well informed on the methods of exploiting and of marketing these several preparations, and should also be thoroughly familiar with the physical as well as the chemical properties of the different articles, they can, by honest criticism of the descriptive articles now being published, contribute materially toward making the proposed book as free from serious errors or mistakes as is possible with a publication of this kind.

The following explanatory note, by the secretary of the council, and the rules that have been adopted to govern the recognition of the several articles are printed as an introductory to the initial instalment of the descriptive articles, and will serve as an additional impetus and a guide for pharmacists who are willing or able to contribute in any way towards the perfection of the work in hand.

Here follow the introduction and the rules published on page 856 of the *Journal of the American Medical Association* for September 15, 1906:—

The following articles have been tentatively accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in the proposed annual, "New and Non-official Remedies." Their acceptance has been based largely on evidence supplied by the manufacturer or his agent, but to some extent on investigation made by or under the direction of the

Council. Criticisms and corrections are asked for to aid in the revision of the matter before final acceptance and publication in book form.

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that so far as known it complies with the rules adopted by the Council.

W. A. PUCKNER, *Secretary.*

RULES GOVERNING THE ADMISSION OF ARTICLES TO THE BOOK "NEW AND NON-OFFICIAL REMEDIES."

(The term "article" shall mean any drug, chemical or similar preparation used in the treatment of disease.)

RULE 1.—No article shall be admitted unless its active medicinal ingredients and the amounts of such ingredients in a given quantity of the article be furnished for publication. The general composition of the vehicle, its alcoholic percentage, if any, and the identity of other preservatives, if present, must be furnished.

RULE 2.—No chemical compound will be admitted unless sufficient information be furnished regarding tests for identity, purity, and strength, the rational formula or the structural formula, if known.

RULE 3.—No article that is advertised to the public will be admitted; but this rule will not apply to disinfectants, and food preparations, except when advertised in an objectionable manner.

RULE 4.—No article will be admitted whose label, package or circular accompanying the package contains the names of diseases, in the treatment of which the article is indicated. The therapeutic indications, properties and doses may be stated. (This rule does not apply to literature distributed solely to physicians, to advertising in medical journals, or to vaccines and antitoxins.)

RULE 5.—No article will be admitted or retained concerning which the manufacturer, or his agents, make false or misleading statements as to geographical source, raw material from which made, or method of collection or preparation.

RULE 6.—No article will be admitted or retained concerning which the manufacturer or his agents make unwarranted, exaggerated or misleading statements as to the therapeutic value.

RULE 7.—Labels on articles containing "poisonous" or "potent" substances must show the amounts of each of such ingredients in a given quantity of the product. A list of such substances will be prepared.

RULE 8.—If the trade name of an article is not sufficiently descriptive of its chemical composition or pharmaceutical character, or is, for any other reason, objectionable, the Council reserves the right to include with the trade name a descriptive title in the book. Articles bearing objectionably suggestive names will be refused consideration.

RULE 9.—If the name of an article is registered, or the label copyrighted, the date of registration and a copy of the protected label should be furnished the Council. In case of registration in foreign countries, the name under which the article is registered should be supplied.

RULE 10.—If the article is patented—either process or product—the number and date of such patent or patents should be furnished.

PHILADELPHIA BRANCH AMERICAN PHARMACEUTICAL ASSOCIATION.

SHORTER HOURS AND A DAY FOR REST.

Of the numerous problems that confront the retail pharmacist of to-day probably few are of more immediate importance, and certainly none are more far-reaching in their ultimate possibilities, than the question of curtailing the inordinately long hours of confinement and of introducing at least a partial day of rest and recreation into the more or less monotonous existence of at least many of the retail pharmacists of the present time.

In the larger cities and towns of this country but few places of business, apart from tobacconists' shops and saloons, make any attempt to cater to the needs and the wants of the public during anywhere near the number of hours that retail drug stores are widely open and brightly illuminated.

It has long been acknowledged that the fruit of uninterrupted labor is to be found in physical as well as moral debasement, and this fact appears to be well illustrated in the practices of certain so-called pharmacists or druggists. It will not be necessary to point out in this connection, that the practices that are followed by at least some of these so-called pharmacists are not above reproach, and that, in some sections of the country at least, pharmacy is used as a cloak for the promiscuous sale of liquors, habit-forming drugs, fraudulent or even dangerous nostrums, abortifacients and a variety of other more or less objectionable articles and appliances.

It is practices of this kind that have brought pharmacy into disrepute in some quarters and have caused the shadow of suspicion to rest on all, even the most reputable followers of our craft. It will hardly be necessary to add that so long as we ourselves are not willing to assist in exposing the men who are guilty of practices of this kind, and so long as we are not willing, or not able to point out to our neighbors how they can differentiate between the honest, upright pharmacist and the ignorant, or arrant knave who stoops to use pharmacy as a cloak for unlawful practices, just so long must we, collectively, suffer under the frequently expressed suspicion of being ourselves guilty of practices of this kind.

It has repeatedly been suggested that few factors have contributed more largely to develop the present-day spirit of apathy and general disinterestedness, so frequently evidenced by the present-day retail

pharmacist, than the narrowing influences of long hours, close confinement and the accompanying isolation that pharmacists themselves have submitted to for generations past.

It is well known that rest and recreation afford healthful relaxation to persons in every walk of life, and it is also known that some degree of relaxation from the ordinary routine of every-day existence is absolutely essential to continued activity or possible progress, in any of the numerous vocations now followed by civilized man.

This being recognized as a fact, the moral injustice of the inordinately long hours submitted to by the retail pharmacist, and his assistants, presents itself to us in quite a different light, and, because of the importance of the practice of pharmacy to the health as well as the welfare of the community, becomes in reality a matter of public concern.

To more fully discuss the several questions that are more or less directly involved, it is proposed to hold a joint meeting under the auspices of the members of the Philadelphia College of Pharmacy and the members of the Philadelphia Branch of the American Pharmaceutical Association, on the evening of Tuesday, October 16, 1906, in the Museum of the Philadelphia College of Pharmacy, to consider:—

Rest and recreation as a physical necessity.

Relaxation as a factor in morality.

Sunday rest as a religious institution.

Legal aspects of Sunday closing.

Practical experiences with Sunday closing.

M. I. WILBERT, Secretary,
Philadelphia Branch Am. Ph. A.

PROPOSED PROGRAM FOR THE MEETINGS OF THE PHILADELPHIA
BRANCH OF THE A. PH. A., 1906-1907.

October.—Shorter Hours and a Day of Rest.

November.—The Work of the Council on Pharmacy and Chemistry of the American Medical Association.

December.—The Federal Pure Food and Drug Law.

January.—The Debasing Influences of Popular Nostrums.

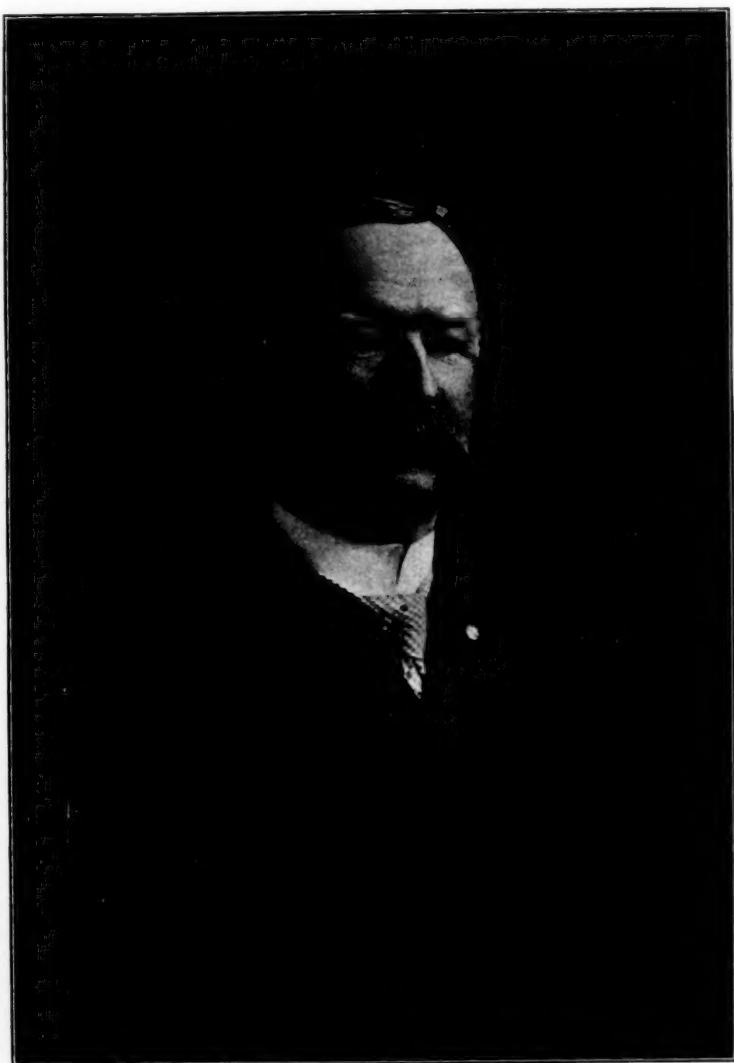
February.—Higher Educational Requirements for Pharmacists.

March.—Indiscriminate Renewal of Prescriptions.

April.—Popularization of U.S.P. and N.F. Preparations.

May.—Proposed Reorganization of the American Pharmaceutical Association.





EDWARD TONKIN DOBBINS,
1841-1906 (see page 350).